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Emir Gorancic

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WRIGHT, BRYAN F

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/519,489 | <b>Applicant(s)</b><br>GORANCIC ET AL. |  |
|                              | <b>Examiner</b><br>BRYAN WRIGHT      | <b>Art Unit</b><br>2131                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/30/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This action is in response to the original filing of October 26, 2005. Claims (1-27) are pending and have been considered below.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 9-12, 15-18, 21, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Susser et al. (US Patent No. 7,200,842 and Susser hereinafter).

3. As to claim 1, Susser teaches a **method of executing software code of a software program (i.e., applet) on an external unit (i.e., smart card), the software code being parsed into a plurality of different blocks of code, each block of code being independently executable (i.e., col. 7, lines 30-35), wherein the external unit (i.e., smart card) is in communication with a computer, the computer including memory for holding the software code, the external unit (i.e., smart card) including (i) input/output for communication with the computer, (ii) a processor, and (iii) memory (40, fig. 1), the method comprising:**

(a) **automatically uploading** (i.e., downloaded) **a first block of code** (i.e., 8 bit operation code (opcode)) **to the memory of the external unit** (e.g., smart card) (i.e., Susser teaches individual instructions downloaded to the smart card [col. 6, lines 50-55]);

(b) **executing the first block of code** (i.e., 8 bit operation code (opcode) (col. 6, lines 10-15)) **in the external unit** (e.g., smart card) **using only the processor** (i.e., microprocessor [48, fig. 1]) **and the memory** (i.e., ROM and EEPROM) **of the external unit** (e.g., smart card) (i.e., Susser teaches the operation codes forms the executable program stored in the method component of the CAP file [col. 7, lines 30-35]);

(c) **sequentially and automatically uploading** (i.e., CAP File transfer) **and executing the remaining blocks of code of the software code in the external unit** (e.g., smart card), **where subsequent blocks of code overwrite** (i.e., EEPROM [54, fig.1]) **previously uploaded blocks of code in the memory of the external unit** (e.g., smart card) (68, 72, fig. 2).

4. As to claim 2, Susser teaches a **method where the software code is a smart card application (applet)** (col. 6, lines 23-30), **and each of the different blocks of code are functions or methods** (col. 6, lines 55-65).

5. As to claim 3, Susser teaches a **method where the computer includes a plurality of software programs and applets, and steps (a) and (b) are performed for each applet** (col. 5, lines 1-20).

6. As to claim 4, Susser teaches a **method where step (a) is performed in the computer at runtime of the software code** (col. 5, lines 1-20).

7. As to claim 5, Susser teaches a **method where (a) is performed prior to runtime of the software code** (i.e., Susser teaches a installation tool to facilitate receiving the applet prior to execution [col. 6, lines 3-8])

8. As to claim 6, Susser teaches a **method where the software code includes a first portion and a second portion** (e.g., method component), **the second portion** (e.g., method component) **being the software code having a plurality of different blocks of code, each block of code being independently executable** (col. 5, lines 25-40), **the method further comprising: (d) executing the first portion of code in the computer** (col. 6, lines 5-20).

9. As to claim 9, Susser teaches a **method where the external unit is a smart card** (40, fig. 1).

10. As to claim 10, Susser teaches a **method of executing software code of at least one software program in a multi-processor computer environment, each software program including (i) a first portion of software code to be executed in a computer** (col. 5, lines 4-12), **and (ii) a second portion of software code to be**

**executed in one or more external units which are in communication with the computer (col. 5, lines 12-21), the software code of the second portion being parsed into a plurality of different independently executable blocks of code (col. 7, lines 30-35), each external unit (i.e., smart card) including (i) input/output for communication with the computer, (ii) a processor, and (iii) memory (40, fig. 1), the method comprising:**

**(a) automatically uploading (i.e., downloaded) a first block of code to the memory of an external unit (e.g., smart card) at execution time of the second portion of software code (i.e., Susser teaches individual instructions downloaded to the smart card [col. 6, lines 50-55]. Susser further teaches downloading code (e.g., applet) to smart card in [col. 5, lines 10-20]);**

**(b) executing the first block of code (i.e., CAP file) in the external unit (e.g., smart card) using only the processor (i.e., microprocessor [48, fig. 1]) and the memory (i.e., EEPROM [54, fig.1]) of the external unit (e.g., smart card) (i.e., Susser teaches the operation codes forms the executable program stored in the method component of the CAP file [col. 7, lines 30-35]); and**

**(c) sequentially and automatically uploading (i.e., CAP File transfer) and executing the remaining blocks of code of the software code in the external unit (e.g., smart card), where subsequent blocks of code overwrite (i.e., EEPROM [54, fig.1]) previously uploaded blocks of code in the memory of the external unit (e.g., smart card) (68, 72, fig. 2).**

11. As to claim 11, Susser teaches a **method where the second portion of software code is a smart card application (applet)** (col. 6, lines 23-30), **and each of the different blocks of code are functions or methods** (col. 6, lines 55-65).

12. As to claim 12, Susser teaches a **method where the software program includes a plurality of applets interspersed within the software program, and steps (a)-(c) are performed for each applet** (col. 5, lines 1-20; col. 6, lines 50-60).

13. As to claim 15, Susser teaches a **method where the external unit is a smart card** (40, fig. 1).

14. As to claim 16, Susser teaches a **method of preparing** (i.e., run, test, debug) **software code of a software program to be executed on an external unit** (i.e., smart card) **which is in communication with a computer** (col. 5, lines 5-12), **the computer including memory for storing the software code** (i.e., Susser teaches a simulation environment [col. 5, lines 5-12]), **the method comprising parsing the software code into a plurality of different blocks of code** (i.e., class files) **which can be sequentially** (i.e., CAP file) **uploaded** (i.e. download) **to, and independently executed in, the external unit** (i.e., smart card) (col. 5, lines 26-40; col. 7, lines 30-35).

15. As to claim 17, Susser teaches a **method where the software code is a smart card application (applet)** (col. 6, lines 23-30), **and each of the different blocks of code are functions or methods** (col. 5, lines 26-37).

16. As to claim 18, Susser teaches a **method where the software program includes (i) a first portion of software code to be executed in the computer** (col. 5, lines 4-12),, and **(ii) a second portion of software code to be executed in the external unit** (i.e., smart card) **which is in communication with the computer** (col. 5, lines 12-21), **and only the second portion of software code is parsed into a plurality of different blocks of code** (i.e., method component) **which can be sequentially uploaded** (i.e., downloaded) **to, and independently executed in** (col. 7, lines 30-35), **the external unit** (i.e., smart card).

17. As to claim 21, Susser teaches a **method of preparing protected computer code from original source code of a software program, the original source code including interspersed first portions and second portions of code of the software program** (col. 5, lines 7-21), **the method comprising creating a pre-compiled version of the original source code** (i.e., CAP file [col. 5, lines 10-20]) **by: (a) transforming each second portion into a function call** (i.e., method) **with arguments that are encrypted executable machine code; and (b) copying each first portion to the**

pre-compiled version, **the pre-compiled version of the original source code** (i.e., CAP file [col. 5, lines 10-20]) having **the same language syntax** (i.e., JAVA) **as the original source code** (col. 6, lines 23-30).

18. As to claim 22, Susser teaches a **method where each of the second portions of the original source code original block of code has an associated tag** (i.e., package), **and step (a) uses the tags to identify each second portion for transformation** (col. 6, lines 30-37].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2131

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 7, 13, 19, 20, 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Susser in view of Wilkinson et al. (US Patent No. 6, 308,317 and Wilkinson hereinafter).

20. As to claim 7, the system disclose by Susser teaches substantial features of the claim invention (discussed above) it fails to disclose:

**A method where the software code is encrypted, the method further comprising: (d) decrypting each block of code in the external unit prior to execution (claim 7).**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**A method where the software code is encrypted, the method further comprising: (d) decrypting each block of code in the external unit prior to execution (claim 7) (to provide encryption and decryption capability [col. 18, lines 18-25]).**

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of encrypting and decrypting program code disclosed above by Wilkinson, for which smart card applet programming security will be enhanced [col. 18, lines 18-25].

21. As to claim 13, the system disclose by Susser o teaches substantial features of the claim invention (discussed above) it fails to disclose:

**A method where the second portion of software code is encrypted, the method further comprising: (d) decrypting each block of code in the external unit prior to execution (claim 13).**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**A method where the second portion of software code is encrypted, the method further comprising: (d) decrypting each block of code in the external unit prior to execution (claim 13) (to provide encryption and decryption capability [col. 18, lines 18-25]).**

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of

Art Unit: 2131

modifying Susser by employing the well known features of encrypting and decrypting program code disclosed above by Wilkinson, for which smart card applet programming security will be enhanced [col. 18, lines 18-25].

22. As to claim 19, Susser teaches a **method of preparing a source code program comprising creating pre-compiled source code (i.e., class) from original source code** (col. 5, lines 10-15), **and the pre-compiled source code has the same language syntax (i.e., JAVA) as the original source code** (col. 6, lines 23-30).

However Susser does not expressly teach;

**where at least a portion of the pre-compiled source code is source code having a function call with arguments that are encrypted machine code,**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**where at least a portion of the pre-compiled source code is source code having a function call with arguments that are encrypted machine code** (to provide encryption and decryption capability [col. 18, lines 18-25]),

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of encrypting and decrypting program code disclosed above by Wilkinson, for which smart card applet programming security will be enhanced [col. 18, lines 18-25].

23. As to claim 20, Susser teaches a **method where the pre-compiled source code** (i.e., CAP file) **includes interspersed first and second portions of pre-compiled source code** (col. 5, lines 7-21),

However Susser does not expressly teach;

**only the second portions being source code having a function call with arguments that are encrypted machine code.**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**only the second portions being source code having a function call with arguments that are encrypted machine code** (to provide encryption capability [col. 18, lines 18-25]).

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of encrypting program code disclosed above by Wilkinson, for which smart card applet programming security will be enhanced [col. 18, lines 18-25].

24. As to claim 23, Susser teaches a **method further comprising: (c) re-compiling** (i.e., converter transforming the class files into CAP File [col. 7, lines 30-36]) **the precompiled version of the original source code** (i.e., class files [col. 7, lines 30-36]) **into a single integrated executable machine code** (i.e., CAP File [col. 7, lines 30-36]) **program having function calls which are associated with the encrypted executable machine code.**

Susser does not expressly teach: **encrypted executable machine code;**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**encrypted executable machine code;** (to provide encryption capability [col. 18, lines 18-25]).

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of encrypted machine code disclosed above by Wilkinson, for which smart card applet programming security will be enhanced [col. 18, lines 18-25].

25. As to claim 24, Susser teaches a **method of executing one or more blocks of protected software code within a machine code program in a plural processor environment, each block of protected software code having a function call with arguments that are encrypted executable machine code, the method comprising:** (a) **executing at least portions of the machine code program in a first processor** (col. 5, lines 5-12); and (b) **upon reaching a function call** (i.e., using a supported keyword to invoke a function) **for a block of protected software code** (i.e., Susser teaches the use of supported keywords [col. 7, lines 25-30]),

However Susser does not expressly teach;

**decrypting and executing the associated protected software code in a second processor.**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**decrypting and executing the associated protected software code in a second processor** (to provide decryption capability [col. 18, lines 18-25]).

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of decrypting program code disclosed above by Wilkinson, for which smart card applet programming will be enhanced [col. 18, lines 18-25].

26. As to claim 25, Susser teaches a **method wherein step (b) further comprises upon reaching a function** (i.e., using a supported keyword to invoke a function) **call for a protected block of software code** (i.e., Susser teaches the use of supported keywords [col. 7, lines 25-30]), **sending** (i.e., downloading [par. 5, lines 12-15]) **the associated protected software code to the second processor for decryption and execution** (i.e., Susser teaches downloading (e.g., **sending**)). Susser teaches the operation codes forms the executable program stored in the method component of the CAP file [col. 7, lines 30-35]) **therein**.

However Susser does not expressly teach decrypting the software code;

**sending the associated protected software code to the second processor for decryption and execution therein.**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**sending the associated protected software code to the second processor for decryption and execution therein** (to provide decrypting capability [col. 18, lines 18-25]).

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of decrypting program code disclosed above by Wilkinson, for which smart card applet programming will be enhanced [col. 18, lines 18-25].

27. As to claim 26, Susser teaches a **method further comprising: (c) upon initiation of step (a) , uploading (downloading) all of the blocks of protected software code to a memory associated with the second processor for subsequent**

**decryption and execution therein upon reaching each of the respective function calls** (i.e., Susser teaches downloading (e.g., **uploading**) a CAP File (i.e., all blocks of code) to memory (e.g., EEPROM [54, fig. 1]) with a microprocessor for execution [fig. 1]).

Susser does not expressly teach **decryption**:

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Wilkinson. Wilkinson discloses:

**decryption** function (to provide decryption capability for program code [col. 18, lines 18-25])

Therefore, given the teachings of Wilkinson, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of decrypting program code disclosed above by Wilkinson, for which smart card applet programming will be enhanced [col. 18, lines 18-25].

28. As to claim 27, Susser teaches a **method where the second processor is a smart card** (40, fig. 1).

29. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Susser in view of Peyret et al. (US Patent No. 5,923,884 and Peyret hereinafter).

30. As to claim 8 and 14, the system disclose by Susser teaches substantial features of the claim invention (discussed above) it fails to disclose:

**A method further comprising: (d) after execution of the last block of code, the external unit sending back state information to the computer for subsequent use by at least the first portion of the software code (claim 8).**

**A method further comprising: (d) after execution of the software code, the external unit sending back state information to the computer for subsequent use by at least the first portion of software code (claim 14).**

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Susser as introduced by Peyret. Peyret discloses:

**A method further comprising: (d) after execution of the last block of code, the external unit sending back state information (i.e., refresh state and depletion state) to the computer for subsequent use by at least the first**

**portion of the software code** (claim 8) (to provide state status capability [claim 2, lines 25-35]).

**A method further comprising: (d) after execution of the software code, the external unit sending back state information** (i.e., refresh state and depletion state) **to the computer for subsequent use by at least the first portion of software code** (claim 14) (to provide state status capability [claim 2, lines 25-35]).

Therefore, given the teachings of Peyret, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Susser by employing the well known features of state status disclosed above by Peyret, for which smart card programming will be enhanced [claim 2, lines 25-35].

### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN WRIGHT whose telephone number is (571)270-3826. The examiner can normally be reached on 8:30 am - 5:30 pm Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYAZ Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2131

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRYAN WRIGHT/

Examiner, Art Unit 2131

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2131